NATURE BASED SOLUTIONS

Regenerative agriculture’s key role in achieving carbon net zero

Pascal Chapot
Nestle will halve its GHG emissions by 2030 to reach net zero by 2050.

Since 2/3 of our emissions come from the production of agricultural ingredients, we put a strong focus on regenerative agriculture.
Regenerative Agriculture

What are the MAIN PILLARS?

**BIODIVERSITY**
Increase plant and animal biodiversity above and below the ground.

**SOIL**
Scale up farming practices that help protect soil health and increase soil organic matter.

**WATER**
Reduce chemical farm inputs, optimize organic fertilization, biological pest control and irrigation techniques.

**LIVESTOCK**
Integrate livestock and optimized grazing in farming systems where feasible.

**PRIORITY ACTIONS**

<table>
<thead>
<tr>
<th>DRIVE SOIL CONSERVATION</th>
<th>USE ORGANIC FERTILIZERS</th>
<th>DEVELOP NATURAL HABITATS</th>
<th>USE LESS CHEMICALS</th>
<th>PROTECT WATERSHEDS</th>
<th>INTEGRATE LIVESTOCKS</th>
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<tr>
<td>Keep permanent &amp; diversified soil cover, with minimum soil disturbance. Develop intercropping.</td>
<td>Replace synthetic by organic fertilizers</td>
<td>Increase natural habitats within the farmland and at landscape level, develop agroforestry</td>
<td>Continuously reduce the use of synthetic herbicides &amp; pesticides</td>
<td>Ensure regeneration of the water cycle in water stressed areas</td>
<td>Optimize pasture management &amp; maximise the value of manure; circular flow of energy &amp; nutrients from barn to soil</td>
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...AND MAINTAIN OR INCREASE YIELDS

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Potential benefits of soil conservation

- **WATER INFILTRATION & DRAINAGE**
  Better water efficiency, reduced erosion

- **MICROBIOLOGICAL ACTIVITY & DIVERSITY**
  Greater biodiversity, better resilience of soil ecosystem

- **WATER RETENTION**
  Better water availability for crops

- **STABILITY AND STRUCTURE**
  Less compaction

- **WELL-DEVELOPED ROOT SYSTEMS**
  More efficient root systems enabling better water and nutrient absorption

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Nestlé Good food, Good life
THE LIVING SOILS APPROACH – IMPLEMENTING THE TRANSITION

WORKING WITH BUSINESSES AND FARMERS:

- **Support ****CHANGE:** helping farmers adopt and test the practices of regenerative agriculture

- **Measure ****PROGRESS:** developing simple Soil Fertility diagnostic tools

- **ENCOURAGE:** Creating new compensation mechanisms for farmers
Suppliers 2020 / 2021

250 farmers engaged
SUPPORT CHANGE: HELPING FARMERS ADOPT THE PRACTICES OF REGENERATIVE AGRICULTURE
MEASURE PROGRESS: RESULTS INDICATORS

Organic Matter/Clay
- pH
- S/CEC

Test Visual Evaluation of Soil Structure (VESS)

Bioturbation

Chemical Fertility

Physical Fertility

Biological Fertility

An indicator:
- Simple
- Scientifically Valid
- Visual

Living Soil Indicator

A B C D E
In order to support the transition to regenerative agriculture it is necessary:

**ENCOURAGE: CREATING INCENTIVES FOR FARMERS**

- Provide Technical Support
- Pay for the effort made (premium per tonne)
DEcisive FACTORS FOR SCALING UP OF NATURE BASED SOLUTIONS

- Established rules of the game - availability of scientifically robust standards and indicators
- Close cooperation with farmers – soil at the center of the farm
- Buyers ready to collaborate and expand volumes
- Shared ambition of the private sector subjects sourcing from the same landscape
- Certification schemes to incorporate agricultural ecosystem outputs